

management issues include fishing gear and their impacts to habitat used by bay scallops and commercial and recreational socioeconomic and fishery data limitations.

The proposed management strategy for the bay scallop fishery is to prohibit take until an independent sampling indicator can determine re-opening with further measures in place before re-opening to ensure spawning is complete and the economic yield is at an optimum for fishermen. Improving data collection on the biology, harvest, environment, and socioeconomic aspects relative to bay scallops is recommended throughout the FMP to provide more comprehensive information for assisting in future management decisions.

Issues addressed in formulating the FMP for North Carolina's bay scallop population encompassed the following general categories: 1) insufficient data; 2) environmental concerns; 3) harvest concerns; and 4) stock enhancement. Specific issues and recommendations are as follows:

1) Insufficient data: The statutory obligation to manage bay scallops according to sustainable harvest cannot be met until the appropriate data are collected. Data on bay scallops are limited to landings from the commercial fishery and an independent survey that has not been sampled consistently until recently. Individual trip information has been available since the initiation of the trip ticket program in 1994. A long-term fishery-independent monitoring program is necessary to provide an annual abundance indicator. Recreational harvest data does not exist and funding is unavailable to collect information on the recreational harvest of bay scallops at this time. Socioeconomic surveys of commercial and recreational participants need to be performed to determine specific characteristics of each user group, which issues are important to them, attitudes towards management of the fishery, as well as general demographic information.

2) Environmental issues: The bay scallop, unlike many estuarine species, is very habitat specific in its distribution, occurring almost exclusively in high salinity beds of submerged aquatic vegetation (SAV). Suitable and adequate habitat is a critical element in the ecology and productivity of bay scallops. The use of bottom disturbing fishing gears have the potential to destroy or damage SAV. The Coastal Habitat Protection Plan (CHHP) implementation plan calls for protective buffers and further restrictions on mechanical shellfish harvest. The extent to which habitat alterations and water quality impacts bay scallop survival is still poorly understood.

3) Harvest concerns: Low landings in recent years due to a red tide event in 1987, numerous hurricanes and predation by cownose rays are both biological and socioeconomic concerns because of the large number of bay scallops lost to the fishery as well as limiting recruitment of the bay scallop population. Other issues of concern include the harvest of whole scallops from polluted areas and the prohibition of soaking scallop meats.

4) Stock enhancement: Bay scallops are often absent in the rules and planning procedures for hatcheries and sanctuaries. Recommendations were made to consider bay